

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

- Sub
01
1. (Currently Amended) A biasing circuit for biasing a device used for amplifying a radio frequency (RF) signal, the RF signal comprising an amplitude modulated carrier having an amplitude modulation bandwidth, the biasing circuit comprising:
an active element having an input and an output, said input being coupled to a fixed direct current (DC) bias voltage source, wherein during its operation the active element maintains a relatively low output impedance over a bandwidth comparable to the amplitude modulation bandwidth; and
a resistor having an input connected to the active element output, wherein a direct current (DC) bias voltage applied at the active element input produces during its operation the active element maintains a fixed DC voltage at the resistor input.
2. (Original) The biasing circuit of claim 1, wherein the active element comprises an operational amplifier.
3. (Original) The biasing circuit of claim 2, wherein the operational amplifier is configured as an inverting amplifier.
4. (Original) The biasing circuit of claim 1, wherein the active element has a frequency bandwidth encompassing the amplitude modulation bandwidth of the RF signal.
5. (Original) The biasing circuit of claim 1, wherein the device is a field effect transistor having a gate, and wherein the resistor has an output connected to the transistor gate.

6. (Original) The biasing circuit of claim 5, wherein the transistor is a GaAs transistor.

7. (Currently Amended) An amplifier circuit for amplifying a radio frequency (RF) signal, the RF signal comprising an amplitude modulated carrier having an amplitude modulation bandwidth, comprising:

a transistor having an input for receiving the RF signal;

a direct current (DC) bias voltage source;

a biasing circuit, the biasing circuit comprising:

an active element having an input connected to the DC bias voltage source and an output, wherein during its operation the active element maintains a relatively low output impedance over a bandwidth comparable to the amplitude modulation bandwidth of the RF signal; and

a resistor having an input connected to the active element output and an output connected to the transistor input, such that the DC bias voltage source provides wherein during its operation the active element maintains a fixed DC voltage at the resistor input, regardless of voltage fluctuations of the RF signal received at the transistor.

8. (Original) The amplifier circuit of claim 7, wherein the active element comprises an operational amplifier.

9. (Original) The amplifier circuit of claim 8, wherein the operational amplifier is configured as an inverting amplifier.

10. (Original) The amplifier circuit of claim 7, wherein the active element has a frequency bandwidth encompassing the amplitude modulation bandwidth of the RF signal.

11. (Original) The amplifier circuit of claim 7, wherein the transistor is a field effect transistor and the transistor input is a gate.

12. (Original) The amplifier circuit of claim 11, wherein the transistor is a GaAs transistor.

13. (Currently Amended) A wireless communication device comprising an amplifier circuit for amplifying a radio frequency (RF) signal, the RF signal comprising an amplitude modulated carrier having an amplitude modulation bandwidth, the amplifier circuit comprising:

a transistor having an input for receiving the RF signal;

a direct current (DC) bias voltage source;

a biasing circuit, the biasing circuit comprising:

an active element having an input connected to the DC bias voltage source and an output, wherein during its operation the active element maintains a relatively low output impedance over a bandwidth comparable to the amplitude modulation bandwidth of the RF signal; and

a resistor having an input connected to the active element output and an output connected to the transistor input, such that the DC bias voltage source provides wherein during its operation the active element maintains a fixed DC voltage at the resistor input; regardless of voltage fluctuations of the RF signal received at the transistor.

14. (Original) The wireless communication device of claim 13, wherein the active element comprises an operational amplifier.

15. (Original) The wireless communication device of claim 14, wherein the operational amplifier is configured as an inverting amplifier.

16. (Original) The wireless communication device of claim 13, wherein the active element has a frequency bandwidth encompassing the amplitude modulation bandwidth of the RF signal.

17. (Original) The wireless communication device of claim 13, wherein the transistor is a field effect transistor and the transistor input is a gate.

18. (Currently amended) A gate bias circuit for biasing a gate of a field effect transistor used for amplifying a radio frequency (RF) signal, the RF signal comprising an amplitude modulated carrier having an amplitude modulation bandwidth, the gate biasing circuit comprising:

an active element having an input, an output and an operational amplifier coupled to the output of the active element, said input being coupled to a direct current (DC) bias voltage source, wherein during its operation the operational amplifier maintains a relatively low output impedance over a bandwidth comparable to the amplitude modulation bandwidth; and

a resistor having an input connected to the active element output, wherein a direct current (DC) bias voltage applied at the active element input produces during its operation the active element maintains a fixed DC voltage at the resistor input.

19. (Original) The gate biasing circuit of claim 18, wherein the operational amplifier is configured as an inverting amplifier.

20. (Original) The gate biasing circuit of claim 18, wherein the active element has a frequency bandwidth encompassing the amplitude modulation bandwidth of the RF signal.